## Energy Efficiency, Sustainability, and Green Building Practices in Historic Buildings

Historic preservation, energy efficiency, and environmental sensitivity are not mutually exclusive. Many historic structures were designed with inherent energy-saving qualities including: operable windows; ample natural light sources; clerestory windows and skylights; wide, overhanging eaves; or heavy masonry walls. These factors should be considered when evaluating the energy efficiency of an individual structure. During rehabilitation projects, the most common energy efficiency-related issues that arise are reducing air infiltration around windows and doors and insulating attics and walls. The NPS generally encourages boosting efficiency in these areas as demonstrated in *Tech Note: Windows No. 11: Installing Insulating Glass in Existing Wooden Sash Incorporating the Historic Glass.* As long as a proposed measure does not diminish the historic character of a building or endanger historic materials, then improving the energy efficiency of a structure will meet the Secretary of Interior's Standards for Rehabilitation.

Promotion of green and sustainable design has a considerable impact in both the new construction and rehabilitation industries. As part of this continuously developing specialty, several programs have been established to evaluate the sustainable aspects of individual projects. The most popular program is the Leadership in Energy and Environmental Design (LEED) Green Building Rating System administered by the U.S. Green Building Council (USGBC). This voluntary program provides a method for measuring a building's environmental impact by evaluating five particular aspects of a project: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

The standards and requirements of the LEED Rating System are currently undergoing review, with the potential for revisions that will better accommodate the use of the LEED program by owners of historic buildings. The NPS, National Trust for Historic Preservation, Association for Preservation Technology International, and USGBC are leading this collaborative effort to rectify the conflict between replacing historic finishes and features with new "earth-friendly" products rather than retaining the historic material intact. This coalition is also attempting to determine how to evaluate the energy saved when existing materials are re-used instead of using newly manufactured or harvested products.

However, even before changes are made to the existing system, the NPS recognizes a need for users of the Historic Preservation Tax Incentives program to be aware of the compatibility of these two elective programs and how they have been successfully combined in the past. A number of historic buildings have been rehabilitated in a way that both met the Standards and received recognition for incorporating energy-efficient and environmentally-friendly products and systems. Several of these have also achieved LEED certification. Practices that promote environmental sustainability are important and should always be considered in a historic rehabilitation project. However, the NPS does not endorse wholesale removal of historic materials and features, or significant alterations to the historic character of a building solely for the purposes of achieving LEED certification.

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